SCOTTSDALE TRANSPORTATION COMMISSION REPORT

To: **Transportation Commission**
From: **Phillip Kercher, Principal Traffic Engineer**
Subject: **Scottsdale Healthcare Transportation Management Plan**
Meeting Date: **November 19, 2009**

ITEM IN BRIEF

Action: Information/Possible Action

Purpose:

At the August 20, 2009, and September 17, 2009, Transportation Commission Meetings, staff presented an overview of Scottsdale Healthcare's plans to construct a phased expansion of their Shea Medical Center and the preliminary plans for new traffic control associated with this expansion. At the Commission's direction, this item is returning for additional discussion.

Key Considerations:

The City has received an application from Scottsdale Healthcare to rezone their Shea Medical Center from the Commercial Office District (CO-PCD) and Planned Commerce Park District (PCP-PCD) to Special Campus District (SC–PCD). The rezoning will accommodate the medical center build-out as envisioned in their twenty-five year master plan.

A traffic study has been prepared to analyze the impacts of the proposed expansion of the medical center under the City's Traffic Impact and Mitigation Analysis Program. Based upon discussions among the traffic engineering consultant, Scottsdale Healthcare representatives, and City staff, a number of changes to the existing traffic control on the streets surrounding the site have been proposed. These include a combination of traffic signals and possible roundabouts at the medical center driveways along both 90th Street and 92nd Street. These devices are recommended to accommodate the anticipated increase in traffic volumes and to provide enhanced traffic control to accommodate pedestrian and bicycle movement across these corridors. The proposed traffic control plan has been discussed at the August and September commission meetings.

The study recommends that a traffic signal and a multi-lane roundabout be constructed at the main Scottsdale Healthcare medical center entrance and Mustang Library entrance on 90th Street respectively. These would be installed with the planned on-street transit center proposed along 90th Street in this location. The spacing between these two devices would be approximately 400 feet; the predicted northbound 95 percentile queue from the traffic analysis is 230 feet for the year 2030 conditions. The Commission has expressed concern about the potential impact to traffic flows along 90th Street that would result from the recommended combination of these traffic control devices, specifically the potential for queues from the traffic signal to interrupt traffic flow in the roundabout.

Over the past 60 days, discussions with the affected parties have been held to refine options for the medical center's main entrance area along 90th Street. Strictly from a traffic engineering standpoint, Transportation staff believes an option that would combine the medical center driveway and library driveway with a single traffic control device would be the most beneficial to traffic flow along 89th Street. However, when the interests of the hospital and the library for separate wayfinding and parking fields is combined with the Transportation Master Plan's recommendations for heightened pedestrian priority along 90th Street, staff recommends a two-step approach.

Step 1 - Install a traffic signal at the medical center driveway.

Step 2 - Evaluate the need for a roundabout at the library driveway after the traffic signal has been in operation for a period of time not to exceed one year.

Staff believes that the recommended approach addresses the needs of the medical center access, still provides controlled pedestrian crossings for the corridor and the future transit center, and improves library access (gaps will be created by the traffic signal).

Staggering the installation of the traffic signal and roundabout allows the traffic signal to be installed at the main medical center entrance in conjunction with the development of the City's transit center, while allowing some time to determine if the roundabout is needed at the library entrance. This option would allow observations to be made of the actual vehicle queuing that occurs at the traffic signal. Safety along the corridor, which has one of the higher collision rates in the City, will be improved by providing additional traffic control devices to improve access to the adjacent land uses and providing controlled crossings for pedestrians.

Attachment 1: PowerPoint presentation

Staff Contact:
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Scottsdale Healthcare
Shea Medical Center
Transportation Management Plan

Transportation Commission Meeting

November 19, 2009

Presented by: Phillip Kercher,

Principal Traffic Engineer

Conceptual Development Phasing

Existing Structures

Phase 1 (2010-2013)
(1) Surface Parking, (2) Tower E and Main Plant Expansion

Phase 2 (2013-2015)
(3) Piper Surgery Center Relocation

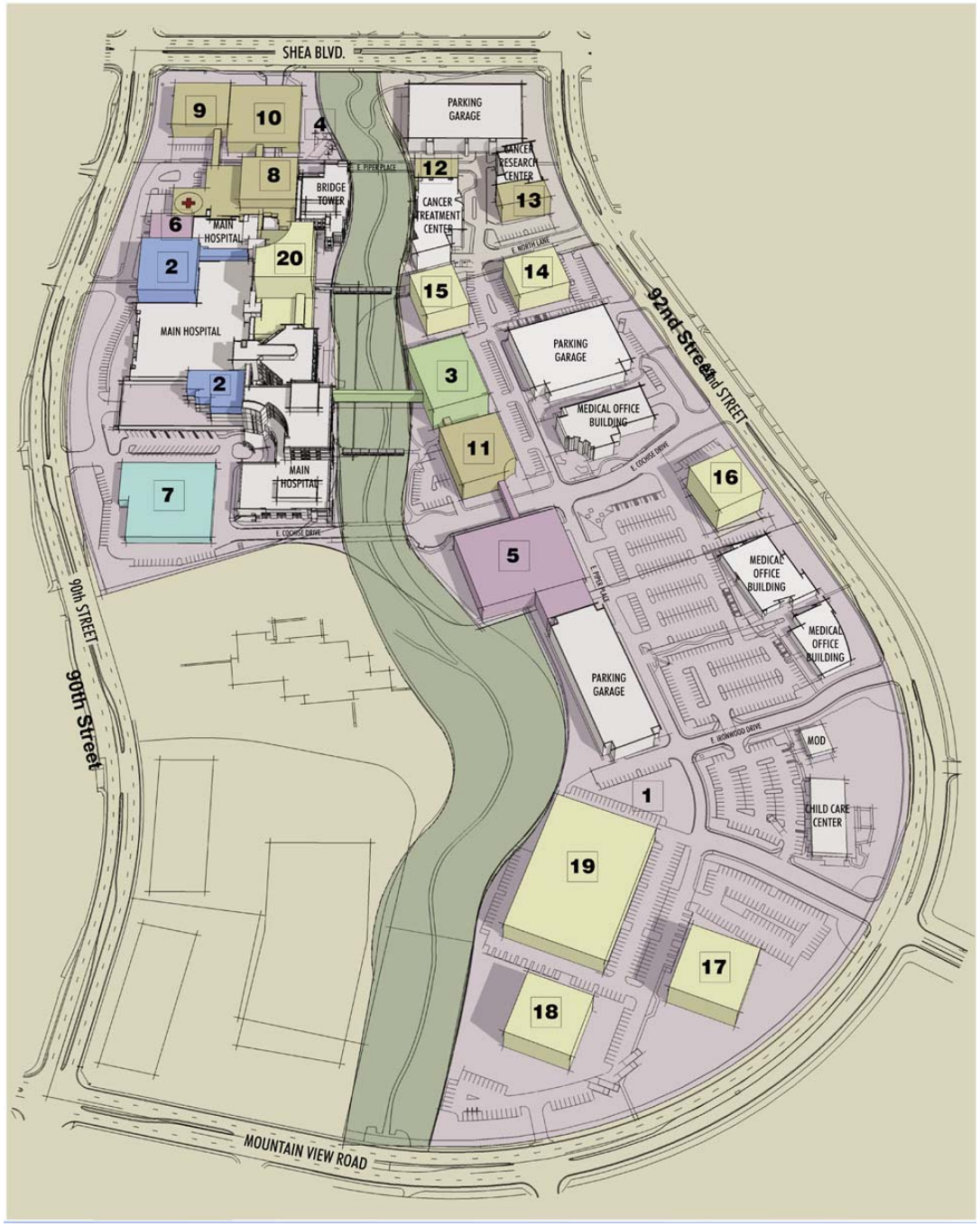
Phase 3 (2016)
(5) Parking Garage, (6) Emergency Department Expansion

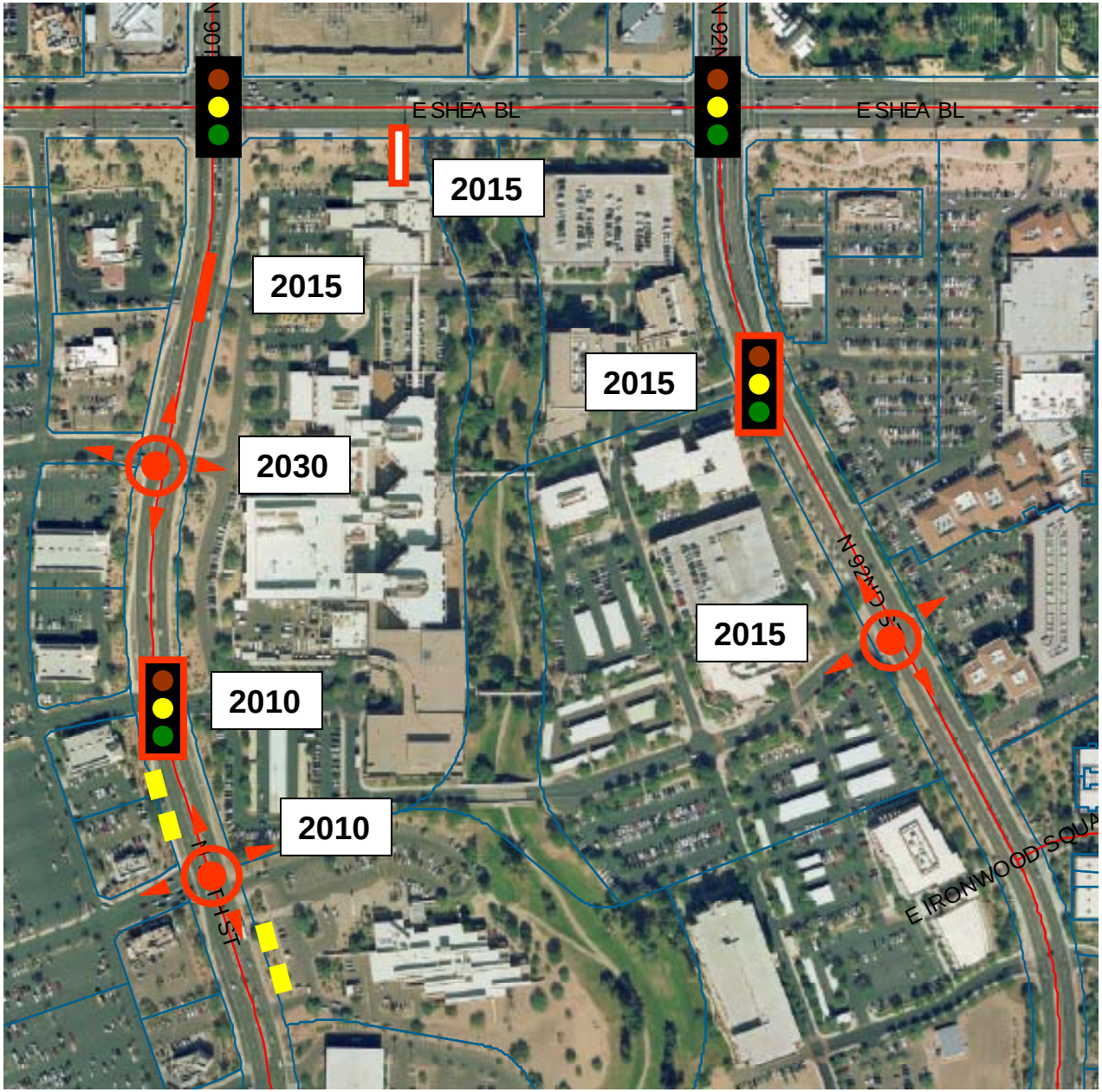
Phase 4 (2017)
(7) Parking Garage

Phase 5 (>2020)
(8) Hospital Expansion, (9) Tower-F, (10) Parking Garage, (11) Clinical Expansion, (12) & (13) Piper Cancer Center Treatment Expansion

Phase 6 (>2025)
(14) & (15) Medical Office MPI Replacement, (16) (17) & (18) Medical Office Building, (19) Parking Garage, (20) New Patient Tower

Figure provided by Scottsdale Healthcare





Proposed Traffic Control with SHC Expansion

(with projected construction year)

Existing Traffic Signal

Proposed Traffic Signal

Proposed Roundabout

Proposed Median & Driveway Closure

Proposed Emergency Vehicle Driveway

On-Street Transit Center

Goals:

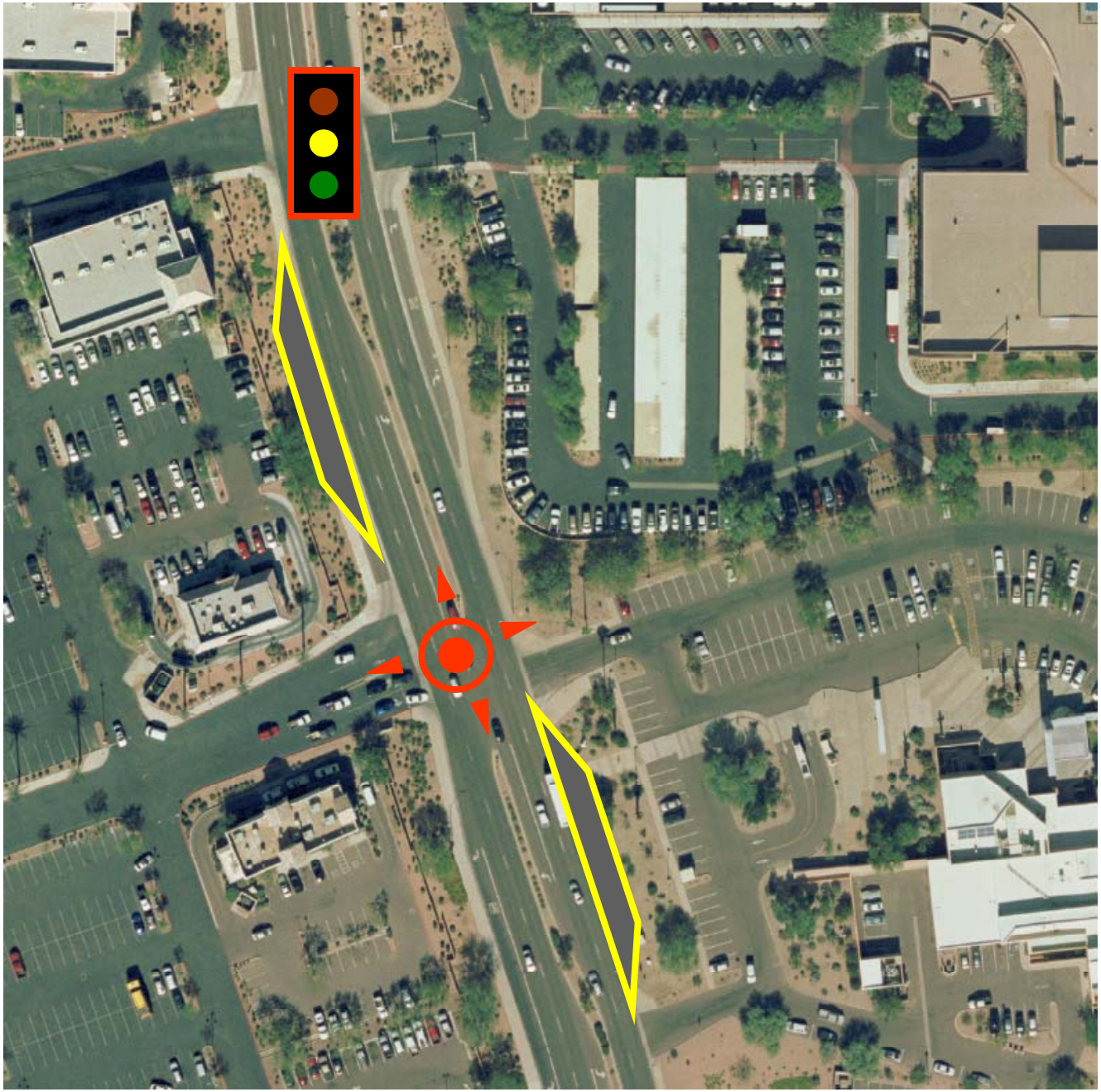
Improve safety along the corridor.

Maintain good traffic flow along the corridor.

Provide a controlled crossing for pedestrians and transit center users.

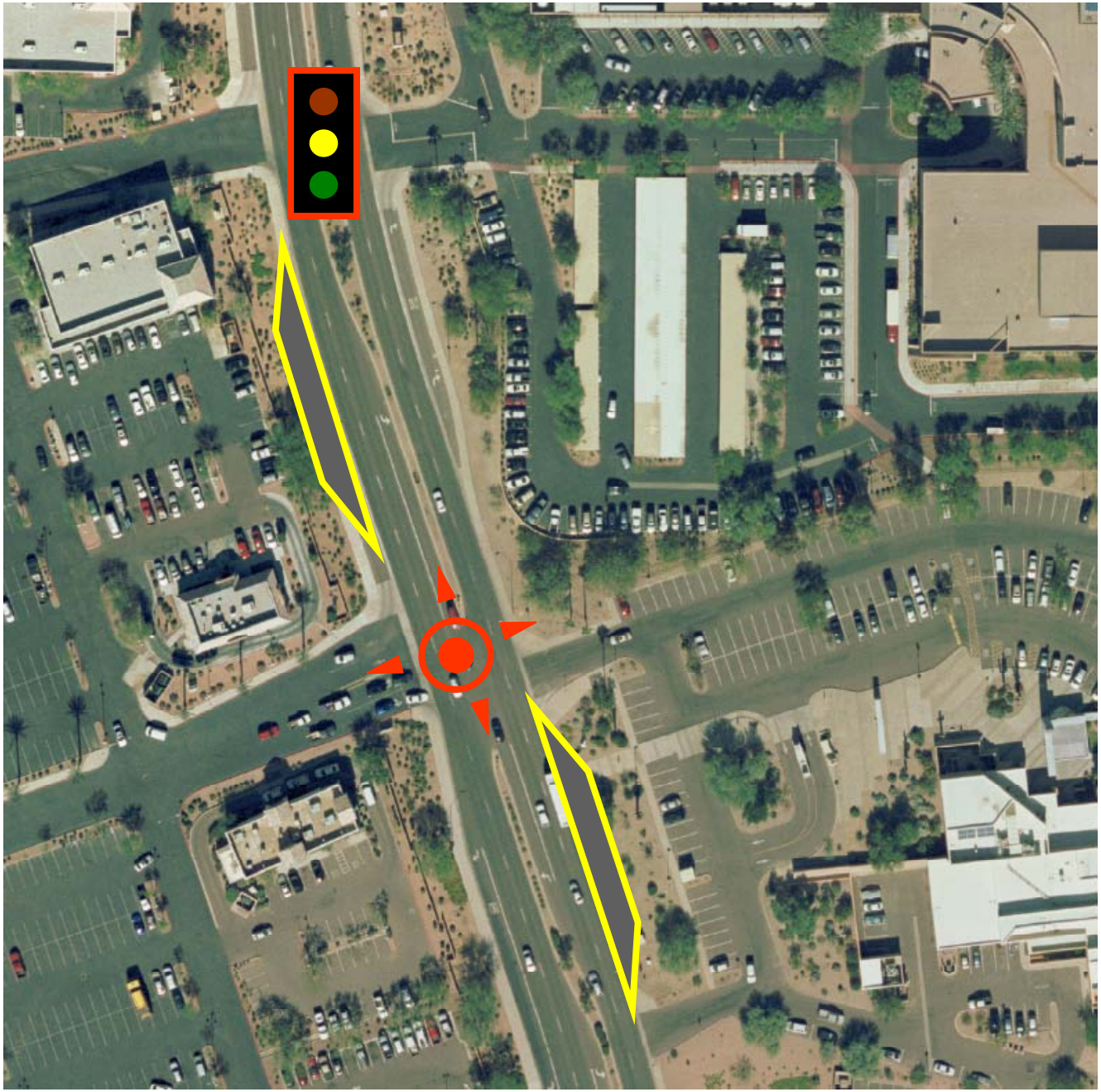
Provide improved access to the SHC medical center.

Provide improved access to the library.



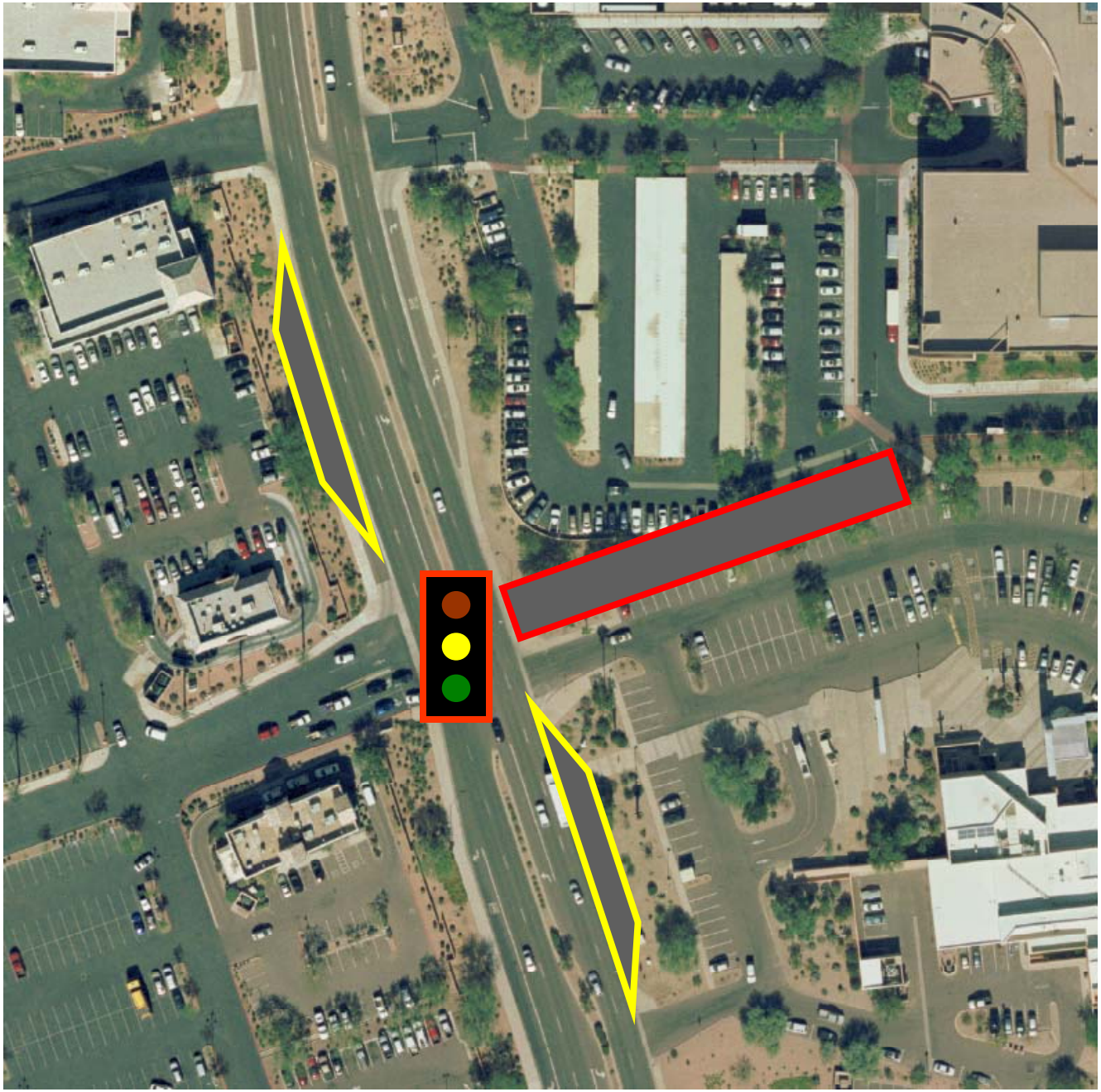
Study Recommendation:

Install a traffic signal at medical center driveway and a roundabout at the library driveway.



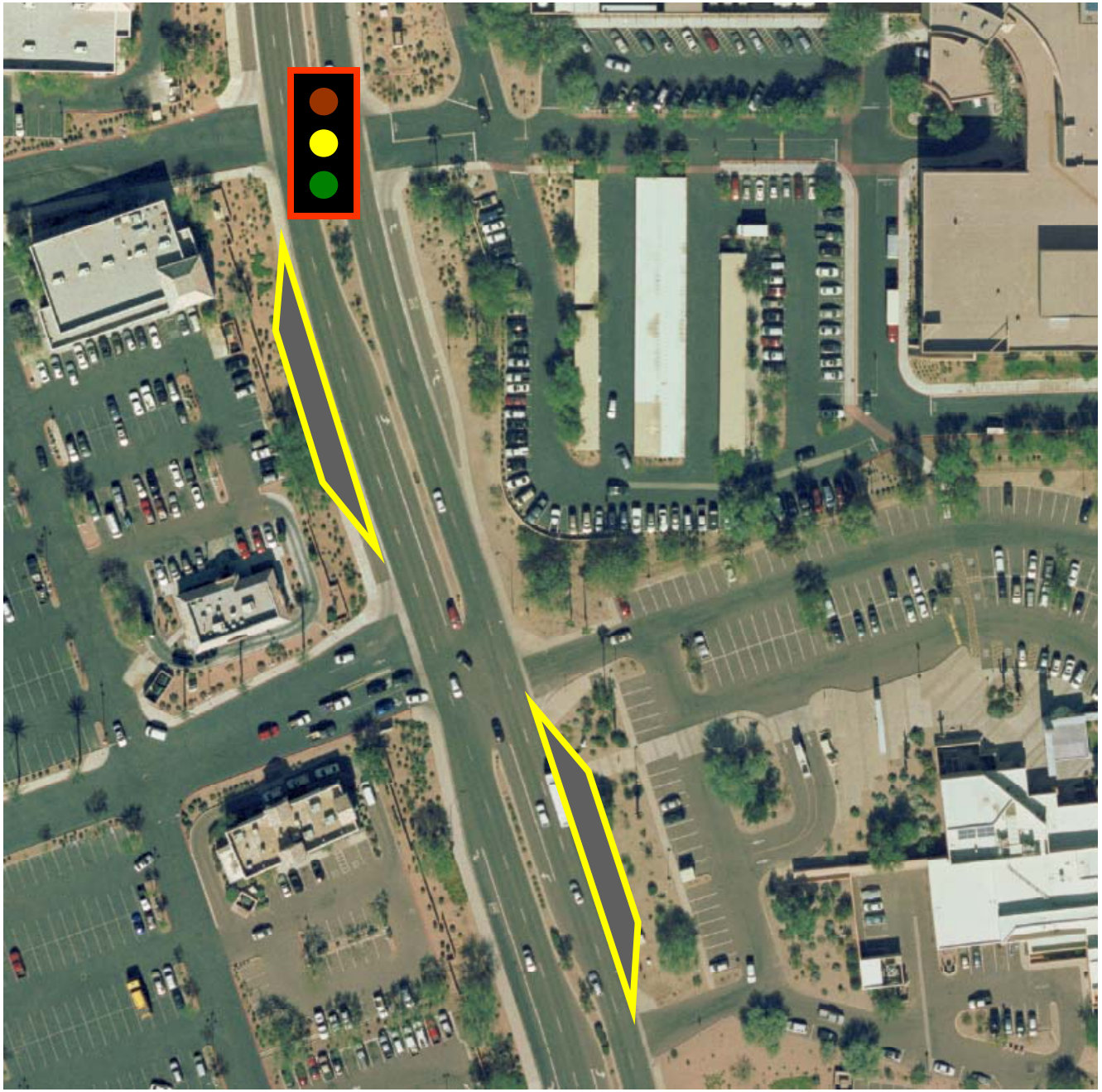
Alternative Recommendation:

Combine the medical center driveway and the library driveway, and install one traffic control device to serve both facilities.

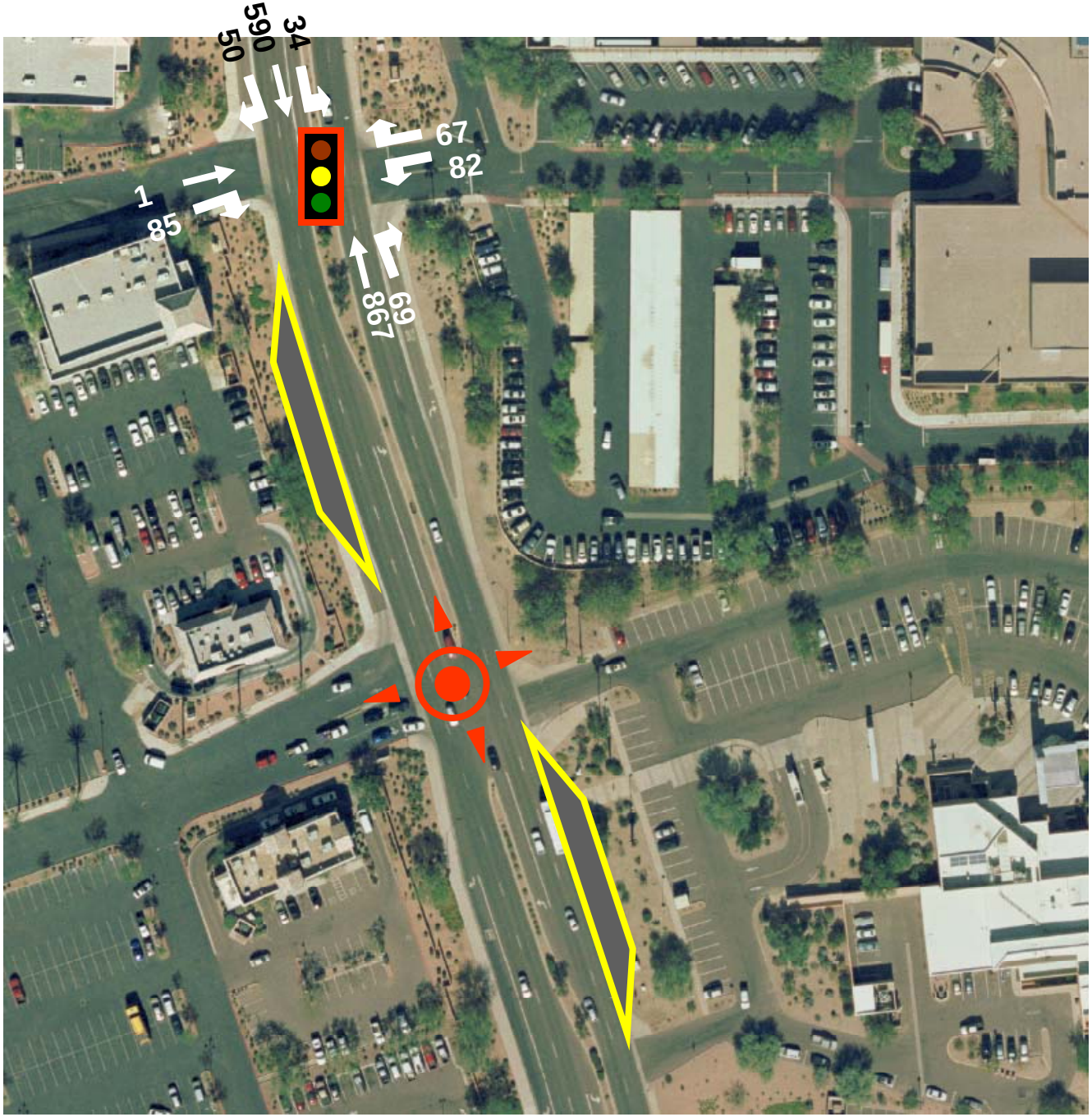


Compromise Recommendation:

Install a traffic signal at medical center driveway, and evaluate the need for a roundabout at the library driveway after the traffic signal has been in operation.



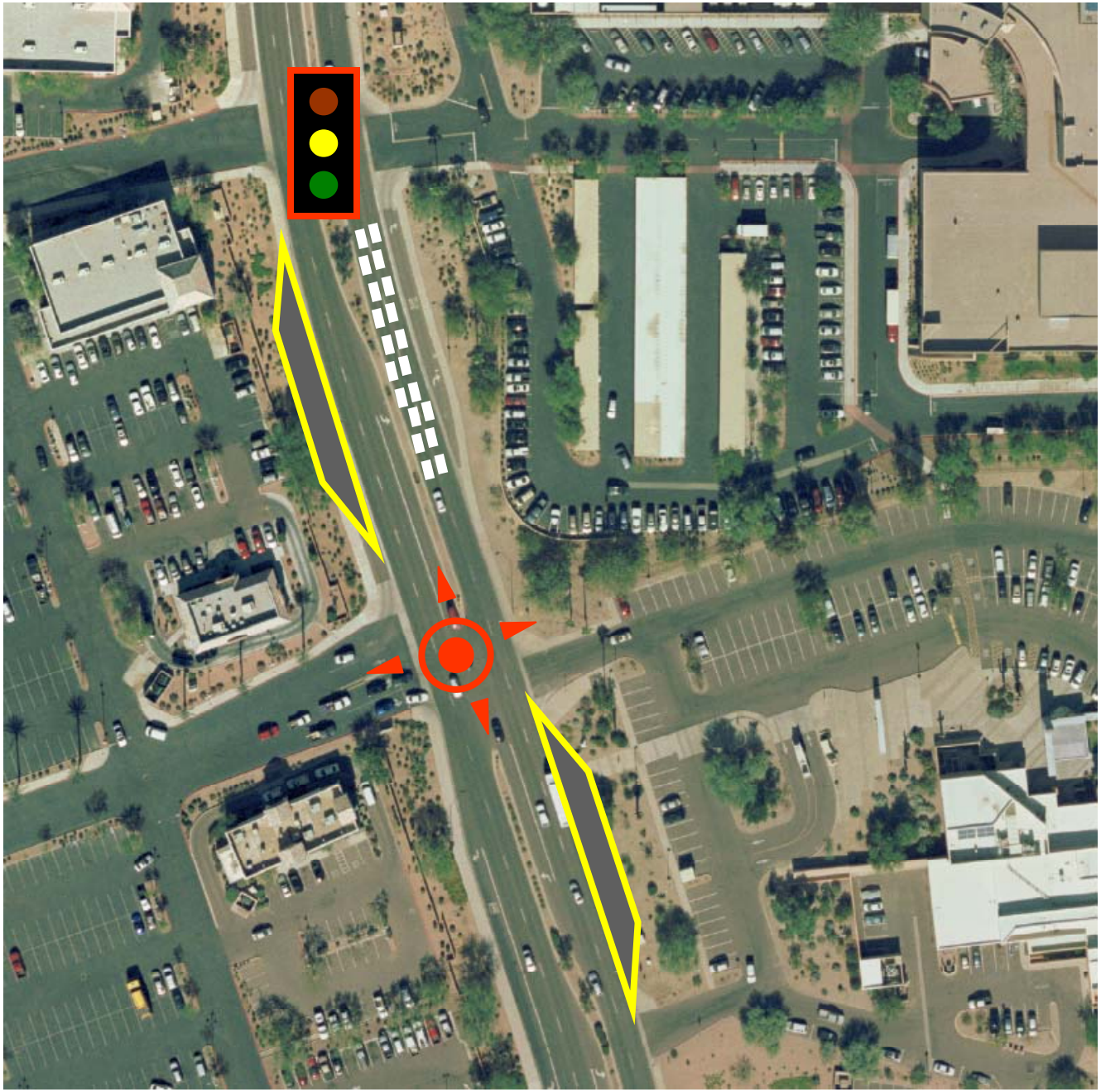
2030 Estimated p.m. peak hour traffic volumes at the main medical center driveway and 90th Street.



Distance between intersections is 400 feet.

Maximum estimated vehicle queue length = 230 feet.

Queue length is based upon 95 percentile using 2030 traffic projections during the p.m. peak hour.



2030 Estimated p.m. peak hour traffic volumes at Shea Boulevard and 90th Street.

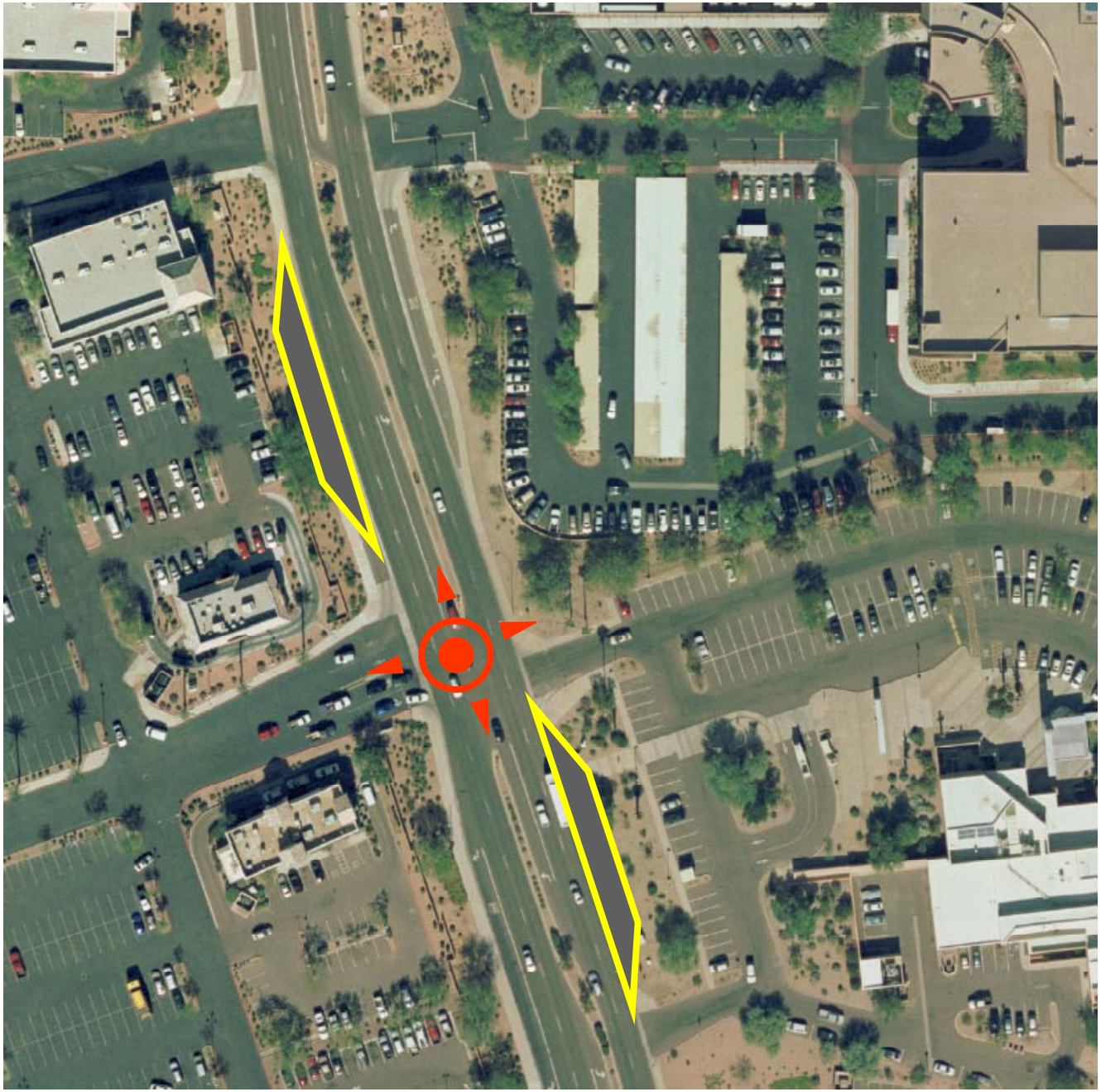
Maximum estimated vehicle queue length = 406 feet.

Queue length is based upon 95 percentile using 2030 traffic projections during the p.m. peak hour.

Questions?

Option 3:

Install a roundabout at the Mustang Library driveway, and evaluate the need for a traffic signal after the roundabout has been in operation.



Option 4:

Install a roundabout at the medical center driveway, and a traffic signal at the library driveway.